Revision Date: April 2, 1999

COORDINATED ISSUE
MINING INDUSTRY
EXCESS MOISTURE
UIL 4121.01-01

ISSUE:

What testing methods or procedures are acceptable to the Service as competent evidence of the existence and amount of excess moisture in coal for determining the permissible reduction to the taxable weight of such coal for excess moisture for purposes of the tax imposed under Internal Revenue Code ("I.R.C.") § 4121.

CONCLUSION:

The Service accepts the testing method outlined in ASTM D1412 for high rank coal and for low rank coal when adjusted with a correction factor as competent evidence of the existence and amount of excess moisture for purposes of I.R.C. § 4121.

BACKGROUND:

I.R.C. § 4121 imposes on coal sold by a producer from mines located in the United States an excise tax equal to the lesser of $.55 per ton from surface mines and $1.10 per ton from underground mines or 4.4 percent of the price at which the coal was sold. This section was added to the Internal Revenue Code in 1977 by the Black Lung Benefits Revenue Act of 1977, § 2(a), 1978-1 C.B. 494 (1978). The congressional purpose in enacting the tax was to fund the Black Lung Disability Trust Fund, which is used to pay benefits to coal miners who are disabled by pneumoconiosis, commonly known as "black lung", where the operator fails to pay or is no longer in existence.

Lignite is exempt from the tax. I.R.C. § 4121(c). Lignite is defined in accordance with the standard specification for classification of coal by rank of the American Society for Testing and Materials ("ASTM") (Annual Book of ASTM Standards Section 5, Volume 05.05, D388). Treas. Reg. § 48.4121(c)-(1).

In computing the tax under I.R.C. § 4121, the Service held in Rev. Rul. 79-119, 1979-1 C.B. 350, that the full tonnage of raw coal delivered by the producer to the preparation plant is used with no reduction for extraneous material subsequently removed. Consistent therewith, the Service initially took the position that the inherent moisture content of the coal and any moisture which accumulates subsequent to extraction is to be included in the tonnage to which the tax is to be applied. Rev. Rul. 82-222, 1982-2 C.B. 195. This position, however, was rejected in A.J. Taft Coal Co. v Commissioner, 605 F. Supp. 366 (N.D. Ala. 1984), aff'd without opinion, 760 F.2d 280

(11th Cir. 1985). The district court opinion in Taft held that, for purposes of I.R.C. § 4121, the term "coal" did not include water that is in excess of the coal's inherent moisture content and that is reasonably measurable. Thus, excess moisture could be excluded in determining the tonnage subject to the tax.

In Rev. Rul. 86-96, 1986-2 C.B. 181, the Service indicated it would follow the Taft decision and allow a calculated reduction of the taxable weight of coal for the weight of excess moisture. However, a reduction is allowable only where the taxpayer can demonstrate through competent evidence that there is a reasonable basis for the determination of the existence and amount of excess moisture.

It is generally observed that low-rank coal appears to be more susceptible to degradation from outside storage than high-rank coal. This difference should not prevent effective determination of excess moisture if standard test methods for collecting samples of coal are used. ASTM D2234, ¶ 7.6, describes methods of protecting sampled coal from changes in composition due to exposure to outside elements.

The excess moisture issue only applies to relatively higher priced coal. The 4.4 percent *ad valorem* limitation in I.R.C. § 4121 prevents the disproportionate impact of the tax on lower-priced coal. In effect, coal from surface mines that sells for less than $12.50 per ton and coal from underground mines that sells for less than $25 per ton is taxed at a rate of 4.4 percent *ad valorem* rather than at a flat rate per ton. 123 Cong. Rec. 39,127 (1977) (statement of Senator Long), *reprinted at* 1978 U.S.C.C.A.N. 73. As the weight of coal is immaterial for tax purposes at these lower prices, the moisture in the coal is also immaterial. Accordingly, there should be no reduction in the weight of the coal for excess moisture.

INDUSTRY SPECIALIST POSITION:

This position paper is intended to establish a uniform industry standard that utilizes the ASTM standards and is consistent with the methodology used by the Department of Interior's Office of Surface Mining (OSM) for determining the moisture and excess moisture content of taxable coal. The use of the ASTM tests and procedures outlined within this position paper is accepted by the Service as a safe harbor test for establishing the amount of the excess moisture for purposes of I.R.C. § 4121.

Claimed weight reductions for excess moisture should be supported by test data from coal actually mined and sold by the producer during the respective quarter. The producer must demonstrate that there is a reasonable basis for the existence and amount of excess moisture and that any test utilized yields accurate results. Generic and historical moisture data from a particular area or locality, as distinguished from such data from the taxpayer's own coal seam, will not be considered, by itself, to constitute competent evidence under I.R.C. § 4121 for excess moisture reductions.

The excess moisture testing procedures and computations set forth in this paper are regarded by the industry specialist as rendering a reasonable estimate of excess moisture in coal and conform to the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995, Pub. L. No. 104-113, 110 Stat. 775, 783 (1996), which directs all Federal agencies and departments to use, unless inconsistent with applicable law or otherwise impractical, technical standards that are developed or adopted by voluntary consensus standards bodies, such as the ASTM, in carrying out policy objectives.

Industry standards and testing procedures, such as those promulgated by the ASTM, are relevant and should be considered in determining the moisture content of coal. The one exception is the proximate analysis test (ASTM D3172), which the Service has determined to be inherently unreliable and unacceptable as competent evidence of the inherent moisture level in coal.

Even though this paper provides safe harbor testing procedures for determining excess moisture in coal, taxpayers will continue to have the burden of proving through internal records, lab reports and other evidence that all testing procedures prescribed in this paper were properly performed and that the results accurately reflect excess moisture in the coal for the periods under audit.

To ensure consistent treatment among all producers, the following terms are clarified:

A) **As-shipped Coal**: Raw or prepared coal that is loaded for shipment from the mine or loading facility.

B) **Blended Coal**: Mixing in predetermined and controlled quantities to give a uniform product. Does not include coal blended with purchased coal.

C) **Channel Sample**: A sample of coal collected according to ASTM Standard D4596 from a channel extending from the top to the bottom of a coal seam.

D) **Commingled Coal**: Where coal from multiple surface permits is combined or commingled with coal from multiple underground permits of the taxpayer.

E) **Core Sample**: A cylindrical sample of coal that represents the thickness of a coal seam penetrated by drilling according to ASTM Standard D5192.

F) **Correction Factor**: The difference between inherent

moisture as determined by ASTM D3302 and equilibrium moisture in low-rank coal.

G) **Equilibrium Moisture**: An estimate of the inherent moisture in all coals, but adjusted with a correction factor for low-rank coal.

H) **High-rank Coals**: Anthracite, bituminous and subbituminous A and B coals.

I) **Inherent Moisture**: In coal, moisture that exists as an integral part of the coal seam in its natural state, including water in pores but not that present in macroscopically visible fractures. On removal of coal from a seam, the water originally present in fractures appears as surface moisture whereas coal containing only pore moisture appears dry. (See ASTM D121 Standard Definitions)

J) **Low-rank coal**: Subbituminous C coal.

K) **Tipple Coal**: Coal from a mine or loading facility that is ready for shipment.

To calculate the moisture content, the rank of the taxable coal mined and sold must first be determined. For purposes of this position paper, all coal mined and sold will be considered "high-rank" coal, except for subbituminous C which will be considered a "low-rank" coal.

For high-rank coal, taxpayers can follow the procedures according to Tables 1 and 2 to compute total moisture and inherent moisture, respectively.

For low-rank coal, taxpayers can follow the procedures according to Tables 3, 4 and 5 to compute total moisture, constructed inherent moisture and a correction factor, respectively.

To calculate the excess moisture in coal for a calendar quarter, either of the following two methods will be acceptable:

(1) $EM = TM - IM$

OR

(2) $EM = 1 - ((1 - TM)/(1 - IM))$

Where EM equals excess moisture percentage. TM equals total as-shipped moisture percentage calculated according to Table 1 or 3. IM equals inherent moisture or constructed inherent moisture percentage calculated according to Table 2 or 4.

Table 1

Calculating TOTAL moisture percentage in HIGH-rank coal

Collect and test each day you ship or use coal

Collect a sample of as-shipped or used coal. Follow procedures in ASTM D2234.

Test the sample for daily total moisture percentage. Follow laboratory procedures in ASTM D3302.

Convert daily test results to quarterly figures and report them

- **MULTIPLY** daily total moisture percentage by daily tonnage shipped or used. You now have daily total moisture tonnage.
- **ADD** up daily total moisture tonnage for the quarter.
- **ADD** up daily tonnage shipped or used in the quarter.
- **DIVIDE** step 2 by step 3.

Report this total moisture percentage in high-rank coal for the quarter.

Calculating INHERENT moisture percentage in HIGH-rank coal

Choose from 3 ways to collect and test

FIRST Collect a core sample. Follow procedures in ASTM D5192.

Test the sample to estimate inherent moisture. Follow laboratory procedures in ASTM D1412, or

SECOND Collect a channel sample. Follow procedures in ASTM D4596.

Test the sample to estimate inherent moisture. Follow laboratory procedures in ASTM D3302 (only if no visible signs of moisture), or in ASTM 1412.

THIRD Collect a sample of blended coal, as-shipped coal, tipple coal, commingled coal or coal from slurry ponds. Follow procedures in ASTM D2234.

Test the sample to estimate inherent moisture. Follow laboratory procedures in ASTM D1412.

Choose from 2 ways to time the tests and convert the results for quarterly reporting

FIRST Collect and test once each quarter, or

SECOND Create a 24-month baseline and update as follows:

For reporting months 1-24 . . .

Collect and test one sample each month. Each quarter, calculate a weighted average percentage of inherent moisture:

- **MULTIPLY** a month's inherent moisture percentage by tons produced or shipped. You now have the month's inherent moisture tonnage.

- **ADD** up 3 months of that inherent moisture tonnage.

- **DIVIDE** by tons produced or shipped in those 3 months.

Report the quarter's weighted average percentage.

For all subsequent months . . .

Collect and test one sample for inherent moisture every 12 months. Calculate and report in the following 4 quarters - one updated rolling average percentage:

- **ADD** to the annual sample percentage the inherent moisture percentages for the preceding 23 tests.

- **DIVIDE** by 24.

Report the quarter's weighted average percentage.

Table 3

Calculating TOTAL moisture percentage in LOW-rank coal

Collect and test each day you ship or use coal

Collect a sample of as-shipped or used coal. Follow procedures in ASTM D2234.

Test the sample for daily total moisture percentage. Follow laboratory procedures in ASTM D3302.

Convert daily test results to quarterly figures and report them

Convert daily total moisture percentage:

- **MULTIPLY** daily total moisture percentage by daily tonnage shipped or used. You now have daily total moisture tonnage.
- **ADD** up daily total moisture tonnage for the quarter.
- **ADD** up daily tonnage shipped or used in the quarter.
- **DIVIDE** step 2 by step 3.

Record this total moisture percentage in low-rank coal for the quarter.

Table 4

Calculating a constructed INHERENT moisture percentage in LOW-rank coal

Collect and test once a month

Collect 1 sample of as-shipped coal. Follow procedures in ASTM D2234.

Test the sample for equilibrium moisture. Follow laboratory procedures in ASTM D1412.

Calculate inherent moisture percentage for the quarter:

- **AVERAGE** the 3 equilibrium moisture results from your monthly tests.
- **ADD** to this average the CORRECTION FACTOR that is calculated according to Table 5.

Report this inherent moisture percentage for the quarter.

Table 5

Calculating the CORRECTION FACTOR for Table 4

Collect and test in the first quarter a deduction is taken

Collect 15 samples that are representative of the entire seam from a freshly exposed, unweathered coal seam face. Follow procedures in ASTM D1412-93, Appendix X1.

Test each sample for two things:

- Inherent (total) moisture (Test Method D3302)
- Equilibrium moisture (Test Method D1412)

Follow laboratory procedures in ASTM D1412-93, Appendix X1.

Convert test results into a correction factor for all quarterly reports

Use the test results to calculate a correction factor:

- **AVERAGE** the 15 (as a minimum) D3302 moisture results from your monthly tests.
- **AVERAGE** the 15 (as a minimum) equilibrium moisture results from your monthly tests.
- **SUBTRACT** the average equilibrium moisture results from the average D3302 moisture results.

You now have a **CORRECTION FACTOR** for the first quarter and all later ones. Use it in Table 4. You may change the correction factor at any time by repeating the steps in this table.

A CORRECTION FACTOR applies to only the bench you sample.